

CLAIMS:

1. A data carrier (1) for contactless communication with a base station (4) by means of an electromagnetic field (HF) generated by the base station (4), having an antenna coil (3) connected to a first coil terminal (5) and to a second coil terminal (6), in which antenna coil (3) an antenna signal (ASD) can be induced in operation by the electromagnetic field, and having modulation means (15) for modulating the electromagnetic field, during successive load periods (TB) and off-load periods (TE), with transmission data (UDD, KUDD) to be communicated to the base station, the electromagnetic field (HF) being load-modulated during the load periods (TB) by modifying the value of the impedance of a modulation load that is connected at least indirectly to the first coil terminal and the second coil terminal, and having detection means (16) for detecting an item of energy information (EI, IRI) that characterizes the energy content of the antenna signal (ASD), and having comparator means (18) for comparing the item of energy information (EI, IRI) detected with a preset item of energy information and for emitting an item of comparison information (VI) and having modification means (19) for modifying the ratio of the duration of the load period (TB) to the duration of the succeeding off-load period (TE) as a function of the item of comparison information (VI).
2. A data carrier (1) as claimed in claim 1, wherein the modification means (19) are designed to increase the ratio of the duration of the load period (TB) to the duration of the succeeding off-load period (TE) if the item of comparison information (VI) characterizes an item of energy information (EI, IRI) that has been detected that exceeds the preset item of energy information.
3. A data carrier (1) as claimed in claim 1, wherein the modification means (19) are designed for the stepless modification of the ratio of the duration of the load period (TB) to the duration of the succeeding off-load period (TE).
4. A data carrier (1) as claimed in claim 1, wherein the modulation means (15) are designed to modulate the electromagnetic field (HF) with a subcarrier signal (HTS), the

sum of the duration of the load period (TB) and the duration of the off-load period (TE) corresponding to the length of one cycle of the subcarrier signal (HTS).

5. A data carrier (1) as claimed in claim 1, wherein, to detect the energy content of the antenna signal (ASD), the detection means (16) are designed to determine the coil voltage (US) arising between the first and second coil terminals.

6. A data carrier (1) as claimed in claim 1, wherein, to detect the energy content of the antenna signal (ASD), the detecting means (16) are designed to determine a bleed current (IR) through a regulator stage (8).

7. An integrated circuit (2) of a data carrier (1) for contactless communication with a base station (4) by means of an electromagnetic field (HF) generated by the base station (4), having a first coil terminal (5) and a second coil terminal (6), to which an antenna coil (3) can be connected, in which antenna coil (3) an antenna signal (ASD) can be induced in operation by the electromagnetic field (HF), and having modulation means (15) for modulating the electromagnetic field (HF), during successive load periods (TB) and off-load periods (TE), with transmission data (UDD, KUDD) to be communicated to the base station (4), the electromagnetic field being load-modulated during the load periods (TB) by modifying the value of the impedance of a modulation load that is connected at least indirectly to the first coil terminal and the second coil terminal, and having detection means (16) for detecting an item of energy information (EI, IRI) that characterizes the energy content of the antenna signal (ASD), and having comparator means (18) for comparing the item of energy information detected with a preset item of energy information and for emitting an item of comparison information (VI), and having modification means (19) for modifying the ratio of the duration of the load period (TB) to the duration of the succeeding off-load period (TE) as a function of the item of comparison information (VI).

8. An integrated circuit (2) as claimed in claim 7, wherein the modification means (19) are designed to increase the ratio of the duration of the load period (TB) to the duration of the succeeding off-load period (TE) if the item of comparison information (VI) indicates an item of energy information (EI, IRI) that has been detected that exceeds the preset item of energy information.

9. An integrated circuit (2) as claimed in claim 7, wherein the modification means (19) are designed for the stepless modification of the ratio of the duration of the load period (TB) to the duration of the succeeding off-load period (TE).

5 10. An integrated circuit (2) as claimed in claim 7, wherein the modulation means (15) are designed to modulate the electromagnetic field (HF) with a subcarrier signal (HTS), the sum of the duration of the load period (TB) and the duration of the succeeding off-load period (TE) corresponding to the length of one cycle of the subcarrier signal (HTS).

10 11. An integrated circuit (2) as claimed in claim 7, wherein, to detect the energy content of the antenna signal (ASD), the detection means (16) are designed to determine the coil voltage (US) arising between the first and second coil terminals.

15 12. An integrated circuit (2) as claimed in claim 7, wherein, to detect the energy content of the antenna signal (ASD), the detecting means (16) are designed to determine the bleed current (IR) through a regulator stage (8).

13. A method of modulation for the modulation, by a data carrier (1), of an electromagnetic field (HF) generated by a base station (4), wherein the following steps are carried out:

20 modulation of the electromagnetic field by the data carrier (1), during successive load periods (TB) and off-load periods (TE), with transmission data (UDD, KUDD) to be communicated to the base station (4), the electromagnetic field being load-modulated during the load periods (TB) by modifying the value of the impedance of a modulation load belonging to the data carrier (1);

25 determination of the distance between the data carrier (1) and the base station (4);

30 adjustment of the ratio of the duration of the load period (TB) to the duration of the succeeding off-load period (TE) as a function of the distance determined between the data carrier (1) and the base station (4).

14. A method of modulation as claimed in claim 13, wherein the ratio of the duration of the load period (TB) to the duration of the succeeding off-load period (TE) is increased if the distance between the data carrier (1) and the base station (4) decreases.

15. A method of modulation as claimed in claim 13, wherein the ratio of the duration of the load period (TB) to the duration of the succeeding off-load period (TE) is modified steplessly.

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16. A method of modulation as claimed in claim 13, wherein the electromagnetic field (HF) is modulated by the data carrier (1) with a subcarrier signal (HTS) and wherein the sum of the duration of the load period (TB) and the duration of the succeeding off-load period (TE) corresponds to the length of one cycle of the subcarrier signal (HTS).